Low-temperature synthesis of carbon nanotubes using metal catalyst layer for decomposing carbon source gas

Patent number: EP1061043
Publication date: 2000-12-20
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Classification:
- International: C01B31/02
- european: C01B31/02B
Application number: EP20000305079 20000615
Priority number(s): KR19990022418 19990615; KR20000030353 20000602

Also published as:
JP2001020072 (A)

Cited documents:
XP000868314
XP000921078
XP000877484
XP000802256
XP000771159

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Abstract of **EP1061043**

A low-temperature synthesis method of carbon nanotubes using a metal catalyst layer. In the synthesis method, a metal catalyst layer is formed over a substrate. The metal catalyst layer is etched to form isolated nano-sized catalytic metal particles. Then, carbon nanotubes vertically aligned over the substrate are grown from every isolated nano-sized catalytic metal particle through thermal chemical vapor deposition, by decomposing a carbon source gas at a temperature equal to or lower than the strain temperature of the substrate using a carbon source gas decomposing metal catalyst layer.